DLOC Precursor IC 5.3: Practice Exercise #6

Directions: Choose the lettered answer that best completes the question. There is only one correct answer for each question unless indicated otherwise.

1. Match the given characteristics with the correct VCP. There is more than one answer for each VCP.

    VCP 11 _____ VCP 21 _____
    VCP 31 _____ VCP 32 _____

    a. Scans 5 elevation angles in 10 minutes
    b. Scans 9 elevation angles in 6 minutes
    c. Scans 14 elevation angles in 5 minutes
    d. Transmits short pulses
    e. Transmits long pulses
    f. Uses the fastest antenna rotation rate
    g. Uses the slowest antenna rotation rate

2. Which VCP produces the greatest statistical accuracy of the base data?

    a. VCP 11
    b. VCP 21
    c. VCP 31
    d. VCP 32

3. Match the given characteristics with the correct WSR-88D sampling technique. There is more than one answer for each technique.

Batch (B) _____
Contiguous Doppler X (CDX) _____
Contiguous Surveillance (CS) _____
Contiguous Doppler (CD) _____
Split Cut (CS/CD) _____

    a. Employed on the lowest 2 elevation slices in all VCPs.
    b. Used on the lowest 2 slices in VCPs 11, 21, and 32 and on the lowest 3 slices in VCP 31 to collect target reflectivity and range information.
    c. Transmits high PRF for entire 360° sweep.
    d. Transmits low PRF for entire 360° sweep.
    e. Used on the lowest 2 slices in VCPs 11, 21, and 32 and on the lowest 3 slices in VCP 31 to collect target velocity and spectrum width information.
    f. Transmits at a low PRF and then switches to a high PRF for each 1° wide sweep.

g. Transmits at a high PRF to collect both target reflectivity and velocity data on higher elevation slices.

h. Employed in middle elevation angles in VCPs 11, 21, and 32; not used in VCP 31.

i. Employed where ground clutter contamination and multiple trip echoes are more likely to occur.

4. Consider the characteristics of VCP 21 when the WSR-88D is scanning in Batch (B) mode at 6.0° elevation. To collect surveillance data, PRF# _____ is used and _____ pulses per radial are transmitted.

      a. 1, 28
      b. 2, 8
      c. 3, 12
      d. 5, 70

5. Consider the characteristics of VCP 32 when the WSR-88D is scanning in Contiguous Doppler (CD) mode at 1.5°. The default PRF # is _____ and _____ pulses per radial are transmitted.

      a. 5, 220
      b. 6, 238
      c. 7, 256
      d. 8, 278

6. If a WSR-88D is operating in VCP 32, using Delta PRI table #3, and is collecting velocity data at 1.5° elevation, then _____ pulses would be transmitted per radial and V_{max} would be approximately _____ kt for the **default** values.

      a. 220, 79
      b. 1013.51, 79
      c. 220, 48.7
      d. 1013.51, 48.7

7. Your WSR-88D radar is operating in VCP 11 and scanning with an elevation angle that uses the CDX waveform. A thunderstorm located at a range of 95 nm with a top of 65,000 ft will

      a. not be range folded.
      b. be range folded (i.e., "second trip" echo).
      c. be detected, but placed at the proper range.
      d. not be detected at this elevation angle.